Workshop on Dynamical Systems

12 - 16 October 2020
Trieste, Italy

ICTP

Dynamical Systems and Ergodic Theory constitute a vibrant and exciting field of current research in mathematics, with lots of connections to other areas such as probability theory, differential geometry, ODEs, and potential applications to such diverse areas as natural and biological sciences, economics, engineering, climate and disease modeling and many others. It can be thought of as a modern development of classical theories of Differential Equations and the fundamental concepts and guiding ideas go back more than a century to pioneering thinkers such as Poincaré, Birkhoff and Kolmogorov. Its interest and importance has only grown in time and several Fields Medals have been awarded in the area.

On the occasion of J. Palis' 80th birthday, the present workshop is an opportunity to celebrate the long standing tradition of Dynamical Systems activities at ICTP that was initiated by J. Palis and C. Zeeman in the early 1980s, and continued by Ya. Sinai, J.-C. Yoccoz and others. It will address a wide range of topics in this field, including:

- dynamics of one-dimensional maps
- homoclinic and heteroclinic behavior, fractal dimensions
- partially hyperbolic systems, dominated splittings
- singular hyperbolic flows
- conservative dynamics, KAM theory
- dynamics in homogeneous spaces
- billiards, interval exchanges, Teichmüller flows
- dynamics of rational and entire functions
- symbolic dynamics, thermodynamic formalism
- stochastic behavior of deterministic systems
- Lyapunov exponents, nonuniform hyperbolicity

The list of invited speakers reflects the diversity of these subjects. Their lectures will constitute the basis of the programme, but posters sessions are also planned, which will give participants an opportunity to present their work.

Organizers:

J. DE SIMOI, Toronto
C. ULCIGRAI, Zurich
M. VIANA, IMPA, Rio de Janeiro

Local Organizer:

S. LUZZATTO, ICTP

Speakers:

A. AVILA, IMPA, Rio de Janeiro and Zurich
P. BERGER, Paris
C. BONATTI, Dijon
S. CROVISIER, Paris
D. DAMJANOVIC, KTH, Stockholm
L. DEMARCO, Northwestern
L. DIAZ, PUC, Rio de Janeiro
G. FORNI, Maryland
G. MOREIRA, IMPA, Rio de Janeiro
A. KANIGOWSKI, Maryland
H. KRIEGER, Cambridge
I. LIOUSSE, Lille
C. LIVERANI, Rome
L. LOMONACO, IMPA, Rio de Janeiro
M. LYUBICH, Stony Brook
A. MÁLAGA, ICERM, Brown
L. MARCHESE, Paris
S. MARMI, Scuola Normale Pisa
M. J. PACIFICO, UFRJ, Rio de Janeiro
L. PALMISANO, Durham
E. PUJALS, CUNY, New York and IMPA, Rio de Janeiro
F. RODRIGUEZ-HERTZ, Penn State
S. SENTI, UFRJ, Rio de Janeiro
B. SCHAPIRA, Rennes
K. WAR, IMPA, Rio de Janeiro
A. WILKINSON, Chicago

How to apply:

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

Deadline:

1 July 2020

The Abdus Salam
International Centre for Theoretical Physics
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Trieste, Italy

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